

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Takuya Tamatani et al. Art Unit :
Serial No. : Examiner :
Filed : Herewith
Title : CELL SURFACE MOLECULE MEDIATING CELL ADHESION AND SIGNAL
TRANSMISSION

MAIL STOP PATENT APPLICATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Under 35 USC §120, this application relies on the earlier filing date of U.S. Application Serial Number 09/383,551, filed on August 26, 1999. Those references listed on the enclosed form PTO-1449 that were submitted to and/or cited by the Office in the prior application are not provided in this application.

Applicants also wish to bring to the Examiner's attention the following co-pending applications, each of which is assigned to the assignee of the present application and contains at least one overlapping inventor with the present application:

U.S. Application No. 09/383,551, filed August 26, 1999;
U.S. Application No. 09/561,308, filed April 28, 2000;
U.S. Application No. 10/107,828, filed March 26, 2002;
U.S. Application No. 10/107,868, filed March 26, 2002;
U.S. Application No. 10/107,907, filed March 26, 2002;
U.S. Application No. 10/301,056, filed November 21, 2002;
U.S. Application No. 10/729,880, filed December 5, 2003;
U.S. Application No. 09/859,053, filed May 16, 2001;
U.S. Application No. 10/625,105, filed July 22, 2003;
U.S. Application No. 10/704,426, filed November 7, 2003;
U.S. Application No. 10/704,030, filed November 7, 2003;
U.S. Application No. 10/704,072, filed November 7, 2003;

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March 11, 2004
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Attorney's Docket No.: 14539-004014 / JF-52US-D5-C4

U.S. Application No. 10/704,056, filed November 7, 2003;

U.S. Application No. 10/723,602, filed November 25, 2003; and

U.S. Application No. 10/721,404, filed November 25, 2003.

This statement is being filed with the application. Please apply any charges or credits to
Deposit Account No. 06-1050, referencing Attorney Docket No. 14539-004014.

Respectfully submitted,

Date: March 11, 2004



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REMARKS

The application submitted herewith is a continuation application of U.S. application serial number 10/301,056, filed November 21, 2002.

The original claims of the parent application have been omitted. New claims 1-14 are presented for examination on pages 117-118 of the present specification. The new claims are supported by the specification of U.S. Patent Application No. 10/301,056 at, for example, page 13, line 26, to page 14, line 2; page 71, line 19, to page 72, line 2; page 75, lines 10-15; page 101, line 10, to page 103, line 15; and page 114, lines 17-19. No new matter has been added by these amendments.

Claims 1-14 appear to be directed to the same patentable invention as claim 24 of U.S. Patent Application No. 10/186,381 (Rottman and Kroczeck), filed June 26, 2002, as set forth in U.S. Patent Application Publication 2004/0001831. If the Patent Office were to declare an interference between the present application and U.S. Patent Application No. 10/186,381, Applicants submit that present claims 1-14 are fully supported by the disclosures of Japanese Patent Application No. 10-62217 (filed February 26, 1998, published February 2, 1999, as Publication No. 11-29599) and International Patent Application No. PCT/JP98/00837 (filed February 27, 1998, published September 3, 1998, as WO 98/38216). The present application claims priority to JP 10-62217 and PCT/JP98/00837, both of which were (together with corresponding European Patent Application No. 98905708.8, published on March 8, 2000, as EP

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0984023) published more than one year prior to the June 26, 2002 filing date of U.S. Patent Application No. 10/186,381.

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Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant Takuya Tamatani et al.	
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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	5,484,892	01/16/1996	Tedder et al.			
	AB	5,506,126	04/09/1996	Seed et al.			
	AC	5,521,288	05/28/1996	Linsley et al.			
	AD	5,770,197	06/23/1998	Linsley et al.			
	AE	5,914,112	06/22/1999	Bednar et al.			
	AF	6,075,181	06/13/2000	Kucherlapati et al.			
	AG	20020164697	11/07/2002	Coyle et al.			
	AH	20020177191	11/28/2002	KroczeK			
	AI	20020182667	12/05/2002	KroczeK			

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AJ	WO 95/33770	12/14/1995	WIPO				
	AK	WO 97/26912	07/31/1997	WIPO				
	AL	WO 98/11909	03/26/1998	WIPO				
	AM	WO 98/19706	05/14/1998	WIPO				
	AN	WO 98/37415	08/27/1998	WIPO				
	AO	WO 98/38216	09/03/1998	WIPO				
	AP	WO 98/45331	10/15/1998	WIPO				
	AQ	WO 00/19988	04/13/2000	WIPO				
	AR	WO 00/46240	08/10/2000	WIPO				
	AS	WO 00/67788	11/16/2000	WIPO				
	AT	WO 01/08700	02/08/2001	WIPO				
	AU	WO 01/12658	02/22/2001	WIPO				
	AV	WO 01/15732	03/08/2001	WIPO				
	AW	WO 01/18022	03/15/2001	WIPO				
	AX	WO 01/21796	03/29/2001	WIPO				

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Foreign Patent Documents or Published Foreign Patent Applications								
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							Yes	No
	AY	WO 01/32675	05/10/2001	WIPO				
	AZ	WO 01/64704	09/07/2001	WIPO				
	AAA	WO 01/87981	11/22/2001	WIPO				
	ABB	WO 02/44364	06/06/2002	WIPO				
	ACC	WO 02/70010	09/12/2002	WIPO				
	ADD	WO 02/76504	10/03/2002	WIPO				
	AEE	AU 13320/99	04/01/1999	Australia				
	AFF	DE 19821060	04/15/1999	Germany				
	AGG	EP 0 984 023	03/08/2000	EPO				
	AHH	EP 1 125 585	08/22/2001	EPO				
	AII	JP 11-228442	08/24/1999	Japan			Abstract	
	AJJ	JP 2000-154151	06/06/2000	Japan			Abstract	

Other Documents (include Author, Title, Date, and Place of Publication)		
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	AKK	Aicher et al., "Characterization of Human Inducible Costimulator Ligand Expression and Function," J. IMMUNOL., 164(9):4689-4696 (2000)
	ALL	Bajorath "A molecular model of inducible costimulator protein and three-dimensional analysis of its relation to the CD28 family of T cell-specific costimulatory receptors," J. MOL. MODEL. 5:169-176 (1999)
	AMM	Beier et al., "Induction, binding specificity and function of human ICOS," EUR. J. IMMUNOL., 30(12):3707-3717 (2000)
	ANN	Bensimon et al., "Human lupus anti-DNA autoantibodies undergo essentially primary V kappa gene rearrangements," EMBO J. 13(13):2951-62 (1994)
	AOO	Brodie et al., "LICOS, a primordial costimulatory ligand?" CURRENT BIOLOGY, 10(6):333-336 (2000)
	APP	Buonfiglio et al., "Characterization of a novel human surface molecule selectively expressed by mature thymocytes, activated T cells and subsets of T cell lymphomas," EUR. J. IMMUNOL., 29(9):2863-2874 (1999)
	AQQ	Buonfiglio et al. "The T cell activation molecule H4 and the CD28-like molecule ICOS are identical," EUR. J. IMMUNOL., 30:3463-3467 (2000)
	ARR	Cameron "Recent advances in transgenic technology" MOLECULAR BIOTECHNOLOGY 7:253-65 (1997)
	ASS	Chambers, "The expanding world of co-stimulation: the two-signal model revisited," TRENDS IN IMMUNOLOGY, 22(4):217-223 (2001)
	ATT	Cocks et al. "A novel receptor involved in T-cell activation," NATURE, 376:260-263 (July 20, 1995)
	AUU	Coyle et al., "The CD28-Related Molecule ICOS Is Required for Effective T Cell-Dependent Immune Responses," IMMUNITY, 13:95-105, (2000)

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		Filing Date Herewith	Group Art Unit

Other Documents (include Author, Title, Date, and Place of Publication)

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	AVV	Dong et al., "Cutting Edge: Critical Role of Inducible Costimulator in Germinal Center Reactions," J. IMMUNOL., 166(6):3659-3662 (2001)
	AWW	Dong, "ICOS co-stimulatory receptor is essential for T-cell activation and function," NATURE 409(6816):97-101 (2001)
	AXX	Eljaschewitsch et al., "Identification of a novel activation antigen on human CD4+ T cells," IMMUNOBIOLOG., 194(1-3):27 (1995)
	AYY	Goding, "Monoclonal Antibodies: Principles and Practice," 2 nd Edition, Academic Press, Orlando, Florida, Chapter 8, pages 281-293 (1986)
	AZZ	Goni et al., "Structural and idiotype characterization of the L chains of human IgM autoantibodies with different specificities," J. Immunol. 142(9):3158-63 (1989)
	AAAA	Gonzalo et al., "The Related Molecules CD28 and Inducible Costimulator Deliver Both Unique and Complementary Signals Required for Optimal T Cell Activation," J. IMMUNOL., 166(1):1-5 (2001)
	ABBB	Guo et al., "Stimulatory Effects of B7-Related Protein-1 on Cellular and Humoral Immune Responses in Mice," J. IMMUNOL., 166(9):5578-5584 (2001)
	ACCC	Harlow and Lane, "Antibodies: A Laboratory Manual," Cold Spring Harbor Laboratory, page 285 (1988)
	ADDD	Hanzawa et al., "Characteristics of a TTH1 antibody which blocks an unknown adhesion phenomenon," PROCEEDINGS OF THE JAPANESE SOCIETY FOR IMMUNOLOGY, Vol. 24, Abstract No. W17-13 (1994) [ORIGINAL JAPANESE AND ENGLISH LANGUAGE TRANSLATION]
	AEEE	Heyeck et al., "Developmental regulation of a murine T-cell-specific tyrosine kinase gene, Tsk," PROC. NATL. ACAD. SCI. USA, Vol. 90, pp. 669-673 (1993)
	AFFF	Houdebine "Production of pharmaceutical proteins from transgenic animals" J. BIOTECHNOL. 34:269-87 (1994)
	AGGG	Hutloff et al., "Identification and initial characterization of a novel T cell-specific cell surface activation antigen," IMMUNOBIOLOG., 197(2-4):172 (1997)
	AHHH	Hutloff et al. "ICOS is an inducible T-cell co-stimulator structurally and functionally related to CD28," NATURE 397:263-266 (1999)
	AIII	Iiyama et al., "The role of inducible co-stimulator (ICOS)/B7-related protein-1 (B7RP-1) interaction in the functional development of Peyer's patches," IMMUNOLOGY LETTERS, In Press, Uncorrected Proof available online April 11, 2003, http://www.sciencedirect.com/science/journal/01652478
	AJJJ	Ishikawa et al., "Prediction of the Coding Sequences of Unidentified Human Genes. X. The Complete Sequences of 100 New cDNA Clones from Brain Which Can Code for Large Proteins <i>in vitro</i> ," DNA RESEARCH, 5:169-176 (1998)
	AKKK	Kappel et al. "Regulating gene expression in transgenic animals" CURRENT OPINION IN BIOTECHNOLOGY 3:548-53 (1992)
	ALLL	Kopf et al., "Inducible Costimulator Protein (ICOS) Controls T Helper Cell Subset Polarization after Virus and Parasite Infection," J. EXP. MED., 192(1):53-61 (2000)
	AMMM	Kuchroo et al. "B7-1 and B7-2 costimulatory molecules activate differentially the Th1/Th2 developmental pathways: Application to autoimmune disease therapy," CELL, 80:707-718 (March 10, 1995)
	ANNN	Ling et al., "Identification of GL50, a Novel B7-Like Protein That Functionally Binds to ICOS Receptor," J. IMMUNOL., 164(4):1653-1657 (2000)
	AOOO	Mages et al. "Molecular cloning and characterization of murine ICOS and identification of B7h as ICOS ligand," EUR. J. IMMUNOL. 30:1040-1047 (2000)
	APPP	Marguet et al. "cDNA Cloning for Mouse Thymocyte-activating Molecule," THE JOURNAL OF BIOLOGICAL CHEMISTRY, Vol. 267, No. 4, pp. 2200-2208 (1992)
	AQQQ	McAdam, "ICOS is critical for CD40-mediated antibody class switching," NATURE 409(6816):102-105 (2001)

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	ARRR	McAdam, "Mouse Inducible Costimulatory Molecule (ICOS) Expression Is Enhanced by CD28 Costimulation and Regulates Differentiation of CD4 ⁺ T Cells," J. IMMUNOL., 165(9):5035-5040 (2000)
	ASSS	McAdam et al., "Mouse inducible costimulatory (ICOS) molecule expression is increased by CD28 costimulation and regulates development of Th2 cells," FASEB JOURNAL, 14(6):A1169 (2000)
	ATTT	Mueller, "T cells: A proliferation of costimulatory molecules," CURR. BIOL. 10(6):R227-R230 (2000)
	AUUU	Mullins et al. "Expression of the DBA/2J Ren-2 gene in the adrenal gland of transgenic mice" EMBO J., 8:4065-72 (1989)
	AVVV	Mullins et al. "Fulminant hypertension in transgenic rats harbouring the mouse Ren-2 gene" NATURE, 344:541-44 (1990)
	AWWW	Mullins et al. "Transgenesis in nonmurine species" Hypertension 22:630-33 (1993)
	AXXX	Niemann "Transgenic farm animals get off the ground" TRANSGENIC RESEARCH, 7:73-75 (1998)
	AYYY	Nojima et al. "The 4F9 antigen is a member of the tetra spans transmembrane protein family and functions as an accessory molecule in T cell activation and adhesion," CELLULAR IMMUNOLOGY, 152:249-260 (1993)
	AZZZ	Nurieva et al., "Inducible costimulator is essential for collagen-induced arthritis," J. CLIN. INVEST. 111(5):701-06 (2003)
	AAAAA	Overbeek "Factors affecting transgenic animal production," Transgenic Animal Technology, A Laboratory Handbook 96-98 (1994)
	ABBBB	Özkaynak et al., "Importance of ICOS-B7RP-1 costimulation in acute and chronic allograft rejection," NATURE IMMUNOLOGY 2(7):591-596 (2001)
	ACCCC	Pech et al., "A large section of the gene locus encoding human immunoglobulin variable regions of the kappa type is duplicated," J. Mol Biol. 183(3):291-9 (1985)
	ADDDD	Poster, Kyoto International Conference Hall, Takaragaike Sakyo-ku, Kyoto, JAPAN (November 30, 1994) [ORIGINAL JAPANESE AND ENGLISH LANGUAGE TRANSLATION]
	AEEEE	Redoglia et al. "Characterization of H4: a mouse T lymphocyte activation molecule functionally associated with the CD3/T cell receptor," EUR. J. IMMUNOL., 26:2781-2789 (1996)
	AFFFF	Riley et al., "ICOS Costimulation Requires IL-2 and Can Be Presented by CTLA-4 Engagement," J. IMMUNOL., 166(8):4943-4948 (2001)
	AGGGG	Robert et al. "Antibody Cross-Linking of the Thymocyte-Specific Cell Surface Molecule CTX Causes Abnormal Mitosis and Multinucleation of Tumor Cells," EXPERIMENTAL CELL RESEARCH, 235:227-237 (1997)
	AHHHH	Sakamoto et al., "AILIM/ICOS: its expression and functional analysis with monoclonal antibodies," HYBRIDOMA AND HYBRIDOMICS, 20(5):293-303 (2001)
	AIIII	Sato et al. (2000) "Up-regulation of inducible co-stimulator (ICOS) expression and its regulation of cytokine production in inflammatory bowel disease," GASTROENTEROLOGY, 118(4):A662
	AJJJJ	Sharpe "Analysis of lymphocyte costimulation <i>in vivo</i> using transgenic and 'knockout' mice," CURRENT OPINION IN IMMUNOLOGY, 7:389-395 (1995)
	AKKKK	Sigmund "Are studies in genetically altered mice out of control?" ARTERIOSCLER. THROMB. VASC. BIOL., 20:1425-29 (2000)
	ALLLL	Swallow et al., "B7h, a Novel Costimulatory Homolog of B7.1 and B7.2, Is Induced by TNF α ," IMMUNITY, 11:423-432, (1999)
	AMMMM	Tafuri et al., "ICOS is essential for effective T-helper-cell responses," NATURE 409(6816):105-109 (2001)
	ANNNN	Tai et al. "A role for CD9 molecules in T cell activation," J. EXP. MED., 184:753-758 (August 1996)

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	AOOOO	Tamatani et al., "Characteristics of an antibody which induces an ICAM-1-LFA-1-independent adhesion pathway," PROCEEDINGS OF THE JAPANESE SOCIETY FOR IMMUNOLOGY, Vol. 23, Abstract No. H-160 (1993) [ORIGINAL JAPANESE AND ENGLISH LANGUAGE TRANSLATION]
	APPPP	Tamatani et al. "AILIM/ICOS: a novel lymphocyte adhesion molecule," INTERNATIONAL IMMUNOLOGY, 12(1):51-55 (2000)
	AQQQQ	Tezuka et al., "Genetic cloning of a lymphocyte surface signal transduction molecule which induces an unknown adhesion phenomenon," PROCEEDINGS OF THE JAPANESE SOCIETY FOR IMMUNOLOGY, Vol. 24, Abstract No. W17-14 (1994) [ORIGINAL JAPANESE AND ENGLISH LANGUAGE TRANSLATION]
	ARRRR	Tezuka et al. "Identification and characterization of rat AILIM/ICOS, a novel T-cell costimulatory molecule, related to the CD28/CTLA4 family," BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, 276:335-345 (2000)
	ASSSS	Tomlinson et al., "The repertoire of human germline VH sequences reveals about fifty groups of VH segments with different hypervariable loops," J. Mol. Biol. 227(3):776-98 (1992)
	ATTTT	Wall "Transgenic livestock: progress and prospects for the future" THERIOGENOLOGY 45:57-68 (1996)
	AUUUU	Wang et al., "Costimulation of T cells by B7-H2, a B7-like molecule that binds ICOS," BLOOD, 96(8):2808-2813 (2000)
	AVVVV	Yoshinaga et al., "T-cell co-stimulation through B7RP-1 and ICOS," NATURE, 402:827-832 (1999)
	AWWWW	Yoshinaga et al., "Characterization of a new human B7-related protein: B7RP-1 is the ligand to the co-stimulatory protein ICOS," INTERNATIONAL IMMUNOLOGY, 12(10):1439-1441 (2000)

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